

# Particle jet energy offset corrections in CMS

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Particle jet is a collimated cascade of particles produced in a high-energy particle collision. CERN's Large Hadron Collider (LHC) produces some 40 million collisions in every second, and most of the particles are usually clustered in a jet. With this amount of data, experimentalists are always confronted with a problem: how to relate the measured energy to a true particle?

Jets can be studied at Monte Carlo simulation level by comparing reconstructed events to generated events. The purpose is to relate, on average, the measured energy to the energy of the corresponding true particle jet. The jet energy corrections are becoming increasingly important this year due to increasing pile-up as LHC's luminosity increases.

In this poster we present a very brief introduction to jet energy corrections and provide an interesting result: after the corrections, jet energy offset seems to depend both the number of simultaneous collisions and the detector region even though it is assumed not.